

**Populational Health, Original research****QUALITY OF LIFE OF PERSONS WITH HYPERTENSION AND RELATIONSHIP WITH TREATMENT: RESULTS OF CROSS-SECTIONAL EXAMINATION EMPLOYEES OF DNIPRO EDUCATIONAL INSTITUTIONS**

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**Abstract: Aim.** To assess the quality of life of patients with hypertension, the relationship with the effectiveness of treatment, and their participation (autonomy) in the treatment process among employees of educational institutions in Dnipro.

**Materials and methods.** Following the initiative of the International Society of Hypertension within the program «May Measurement Month, » a group of staff and students at Dnipro State Medical University made a cross-sectional study of blood pressure (BP) among 131 adults (over 18 years) employed by schools and universities of Dnipro region, especially teachers. Each participant had three BP measurements and completed a demographic, lifestyle, and environmental factors questionnaire. The general questionnaire «SF-36» (Health Status Survey-36) was used for the study of the quality of life (QOL). Hypertension (HTN) was defined as a systolic BP of  $\geq 140$  mm Hg or a diastolic BP of  $\geq 90$  mm Hg based on the mean of the second and third BP recordings. Those taking antihypertensive medications were also assumed to have HTN and were aware of their condition.

**Results.** A survey supplemented by instrumental examinations revealed that HTN was detected in 84 (64.1 %) persons (95 % CI 55.3 - 72.3). Of those surveyed, 59 received appropriate antihypertensive treatment, corresponding to 70.2 % of detected cases of HTN. Of those who received antihypertensive medications, 39 (66.1 %) had controlled BP, which represents 46.4% of all patients with HTN included in the study. From the number of persons with known HTN (n=64), only 39 (60.9 %) reached the target values of BP. 33.9 % of patients receiving antihypertensive treatment did not achieve adequate control of HTN, which may indicate the ineffectiveness of the treatment. Of those surveyed, 59 (45.0 %) (95 % CI 36.3 - 54.0) received appropriate AHT, which corresponds to 70.2 % of detected cases of HTN. From the number of people with known HTN (n=64), only 39 (60.9 %) reached the target values of BP. Assessment of QOL according to the SF-36 method showed that most respondents assess their health as good (56.1 %) or satisfactory (37.8 %). Educators rated the QOL field of Physical Functioning as the best, Role-Physical, and Social Functioning as the worst. Patients with HTN had a statistically significantly lower value of QOL on the Role-Physical ( $p=0.004$ ) and Role-Emotional ( $p=0.026$ ) scales compared with persons without HTN, which indicates the important role of physical and emotional problems in limiting the activity of patients with HTN.

**Conclusion.** The finding indicates a low propensity of patients to make decisions about their health. More than half of the respondents with high BP were unaware of their condition and did not receive appropriate treatment, while more than a third of patients did not achieve BP control even while taking medication. This justifies the need for a more thorough diagnosis and treatment of HTN involving patients in this process. These results seem to be impacted by a special study cohort representation of the patients-employees of educational institutions.

**Keywords:** hypertension, patients' autonomy, treatment status, blood pressure measurement, employees of educational institutions, quality of life, Dnipro, Ukraine.

**INTRODUCTION** Hypertension (HTN) remains the leading cause of the preventable cardiovascular disease (CVD) and with high overall mortality. According to experts from the European Society of Cardiology and Hypertension (ESC/ESH), more than 1 billion adults worldwide, and by 2025 this number is projected to increase to 1.5 billion [1, 2]. Despite effective treatments and improving patients' autonomy in the decision-making process, BP control in most countries remains low. Many people are unaware of their high BP, do not receive appropriate treatment, and do not address the disease control. Many people who take medication do not reach their BP targets due to various factors, making the treatment ineffective.

Hypertension is the most common disease of the cardiovascular system in Ukraine. According to official data from the Center for Medical Statistics of the Ministry of Health of Ukraine, 32.2 % of the adult population has HTN [3]. There is also a high frequency of poor BP control [4]. In the context of the COVID-19 pandemic, the problem of high BP remains relevant. People with high BP are at increased risk of morbidity and mortality from COVID-19 [5]. The presence of HTN significantly affects the reduction of patients' QOL, which is an integral characteristic of a person's physical, psychological, and social functioning based on his subjective perception. QOL is also considered an integral characteristic, which should be guided in assessing the effectiveness of care for patients.

Among other specific factors that reduce the QOL of people with HTN, researchers identify significant effects of age, gender, disease duration, body mass index, number of drugs taken, adherence to treatment, etc. [6, 7]. Recent studies have shown that with insufficient control of HTN, there is deterioration in QOL, which may also be associated with a decrease in a patient's adherence to prescribed therapy [7]. In this case, the involvement of patients in the decision-making process for the treatment of the disease becomes of great importance.

A patient's participation in the discussion of the treatment process or his informed consent to the choice of treatment methods is defined as patient autonomy. So, patients can play an essential role in protecting their health. There is evidence that increasing patients' interest can help improve their condition and emerge the feelings of

satisfaction accompanied by positive clinical and economic effects [8-12].

Today, autonomy is an important element of patient-centered care and part of the main goal of the health care system – health systems responsiveness to public demand [11].

The study of patients' participation in the treatment process is insufficient in Ukraine and accounts only for 43.4% in outpatient settings and 49.0% of hospitalized patients.

The study about the treatment Such a low assessment of patient autonomy in the treatment process indicates that it is not perceived as an important component of the health care system, either by the population or by medical professionals. However, this aspect of the treatment process is important not only for improving its effectiveness but also contributes to a significant improvement in the attitude of patients to treatment [12]. Many authors from different countries, including Ukraine, did studies on the QOL assessments of patients with HTN [6, 7, 13]. Still, only a few studies consider the importance of patients' autonomy in the treatment process.

**Aim:** To assess the quality of life (QOL) of patients with hypertension, the relationship of QOL with the effectiveness of treatment, and a patient's autonomy in the treatment process among employees of educational institutions in Dnipro.

**MATERIALS AND METHODS** At the International Society of Hypertension initiative within the program «May Measurement Month, » a group of staff and students at Dnipro State Medical University conducted a cross-sectional study of blood pressure among 131 adults (over 18 years) employees of schools and universities of Dnipro, especially teachers.

Each participant had three BP measurements and completed a demographic, lifestyle, and environmental factors questionnaire. General questionnaire «SF-36» (Health Status Survey-36) was used for the study QOL [14].

Hypertension was defined as a systolic BP of  $\geq 140$  mm Hg or a diastolic BP of  $\geq 90$  mm Hg based on the mean of the second and third BP recordings. Those taking antihypertensive medications were also assumed to have HTN and be aware of their condition. Among those on treatment, controlled BP was defined as a systolic BP of  $< 140$  mm Hg and a diastolic BP of  $< 90$  mm Hg. When

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organizing the study, the possibility of obtaining "white coat hypertension" was ruled out [1].

All participants were divided into two groups: the 1st group consisted of persons without arterial hypertension (AH). The 2nd group consisted of persons with AH, detected during the examination or according to a survey of patients.

The SF-36 questionnaire aims to identify eight complex parameters of QOL, which are very sensitive to changes in health status. It consists of 36 questions, eight scales, and two total measurements. The questionnaire has the following scales: Physical functioning (PF), Role-physical functioning (RP), Bodily pain (BP), General health (GH), Vitality (VT), Social functioning (SF), Role-emotional functioning (RE), Mental health (MH).

The indicators can range from 0 to 100 points, and a high value is a good indicator for the selected scale. The SF-36 questionnaire was removed using the standardized interview method.

The survey was voluntary and anonymous; it collected only general data. The depersonalization of participant identifiers protected the confidentiality of information. Under the control of BP was understood the proportion of persons (%) with HTN who reached the target values of BP. The effectiveness of treatment of HTN was understood as the share of persons (%) who got the target values of BP among those receiving previously prescribed antihypertensive therapy (AHT) [7]. Detailed information on the nature of AHT was not collected; according to the respondents, its presence was recorded.

Statistical analysis, which included the calculation of averages and their description depending on the nature of the distribution (determined by the Shapiro-Wilk test) in the form of arithmetic mean (M) and 95 % confidence interval (95 % CI) with normal distribution and median and interquartile range Me (25 %; 75 %) – with asymmetric; calculation of relative values from 95 % of CI; assessment of the reliability of discrepancies between quantitative variables according to the Mann-Whitney test, qualitative - according to Pearson's criterion  $\chi^2$ , including the Yates correction; rank correlation analysis with the calculation of Spearman's correlation coefficient (rs) was performed using STATISTICA 6.1 (StatSoftInc., serial №AGAR909E415822FA).

**RESULTS** The study enrolled 93 (71.0 %) women and 38 (29.0 %) men aged 28 to 82 years. The average age of all respondents was 54.6 (95 % CI 52.6 - 56.6) years. The

number of young people included in the study was insignificant; only 11 people (8.4 %) were under 40 years of age, so the HTN origin of young patients is not taken into consideration.

The subjects who participated in the study were mainly teachers (64.1 %). Other respondents were administrative or support staff of the schools (20.6 %) and employees (teachers, laboratory assistants, librarians) of higher education institutions (15.3 %).

According to the three measurements, among the surveyed educators in Dnipro, systolic BP was 131.3 (95 % CI 128.1 - 134.5) mm Hg, diastolic - 82.6 (95 % CI 80.9 - 84.3) mm Hg.

In general, HTN was detected in 84 (64.1 %; 95 % CI 55.3 - 72.3), among them 54 (58.1 %) women, and 30 (78.9 %) men. Systolic BP in men was significantly higher than in women ( $p=0.022$ ). Patients who suffered a myocardial infarction had more elevated systolic BP ( $p=0.018$ ) compared to others. Smokers had higher systolic and diastolic BP ( $p=0.045$ ).

Statistical significance between age groups was related to the predominance of the elderly subjects with HTN (Table 1). This fact confirmed the pattern of increasing the frequency of high BP in the elderly. Rank correlation analysis showed a direct relationship between age and systolic BP (Spearman's rank correlation coefficient  $r_s=0.46$ ;  $p<0.001$ ), between age and body mass index - BMI ( $r_s=0.29$ ;  $p=0.001$ ). In turn, BMI ( $r_s=0.27$ ;  $p=0.002$ ), as well as obesity ( $r_s=0.21$ ;  $p=0.019$ ) and age ( $r_s=0.50$ ;  $p<0.001$ ) correlated with the presence of HTN.

Most respondents (36.6 %) were obese, with the proportion of overweight patients in group 2 significantly higher ( $p=0.019$ ). Regarding the presence of diabetes, no differences between the groups were found ( $p>0.05$ ), and the presence of this disease was confirmed by 5.3 % of respondents.

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| Characteristics                          | All examined   | Group 1<br>without HTN | Group 2<br>With HTN | <i>p</i> |
|--|----------------|------------------------|---------------------|----------|
| Total number,<br>n (%)                   | 131<br>(100.0) | 47<br>(35.9)           | 84<br>(64.1)        | -        |
| <i>Gender, n (%)</i>                     |                |                        |                     |          |
| women                                    | 93 (71.0)      | 39 (83.0)              | 64 (76.2)           | 0.363    |
| men                                      | 38 (29.0)      | 8 (17.0)               | 20 (23.8)           |          |
| <i>Age</i>                               |                |                        |                     |          |
| from 28to 50 years                       | 47 (35.9)      | 27 (57.4)              | 16 (19.0)           | <0.001   |
| 50 – 65 years                            | 58 (44.3)      | 18 (38.3)              | 44 (52.4)           |          |
| over65years                              | 26 (19.8)      | 2 (4.3)                | 24 (28.6)           |          |
| <i>Occupational level, n (%)</i>         |                |                        |                     |          |
| Teacher                                  | 84 (64.1)      | 28 (59.6)              | 56 (66.7)           | 0.164    |
| Other                                    | 47 (35.9)      | 19 (40.4)              | 28 (33.3)           |          |
| <i>Obesity, n (%)</i>                    |                |                        |                     |          |
| Absent                                   | 83 (63.4)      | 36 (76.6)              | 47 (56.6)           | 0.019    |
| Present                                  | 48 (36.6)      | 11 (23.4)              | 37 (44.0)           |          |
| <i>Smoking, n (%)</i>                    |                |                        |                     |          |
| No                                       | 109 (83.2)     | 42 (89.4)              | 67 (79.8)           | 0.159    |
| Yes                                      | 22 (16.8)      | 5 (10.6)               | 17 (20.2)           |          |
| <i>Alcohol consumption, n (%)</i>        |                |                        |                     |          |
| No                                       | 111 (84.7)     | 42 (89.4)              | 69 (82.1)           | 0.271    |
| Yes                                      | 20 (15.3)      | 5 (10.6)               | 15 (17.9)           |          |
| <i>Stroke, n (%)</i>                     |                |                        |                     |          |
| No                                       | 125 (95.4)     | 47 (100.0)             | 78 (92.9)           | 0.150    |
| Yes                                      | 6 (4.6)        | 0 (0)                  | 6 (7.1)             |          |
| <i>Myocardial infarction, n (%)</i>      |                |                        |                     |          |
| No                                       | 111 (84.7)     | 46 (97.9)              | 65 (77.4)           | 0.002    |
| Yes                                      | 20 (15.3)      | 1 (2.1)                | 19 (22.6)           |          |
| <i>Diabetes, n (%)</i>                   |                |                        |                     |          |
| No                                       | 124 (94.7)     | 46 (97.9)              | 78 (92.9)           | 0.221    |
| Yes                                      | 7 (5.3)        | 1 (2.1)                | 6 (7.1)             |          |
| <i>Elevated glucose level, n (%)</i>     |                |                        |                     |          |
| Don't know                               | 106 (80.9)     | 44 (93.6)              | 62 (73.8)           | -        |
| No                                       | 15 (11.5)      | 2 (4.3)                | 13 (15.8)           | 0.706    |
| Yes                                      | 10 (7.6)       | 1 (2.1)                | 9 (10.7)            |          |
| <i>Elevated cholesterol level, n (%)</i> |                |                        |                     |          |
| Don't know                               | 113 (86.3)     | 46 (97.9)              | 67 (79.8)           | -        |
| No                                       | 7 (5.3)        | 0 (0)                  | 7 (8.3)             | 0.815    |
| Yes                                      | 11 (8.4)       | 1 (2.1)                | 10 (11.9)           |          |
| <i>The level of prosperity, n (%)</i>    |                |                        |                     |          |
| Undecided                                | 58 (44.3)      | 17 (36.2)              | 41 (48.8)           | 0.005    |
| Satisfactory                             | 60 (45.8)      | 20 (42.6)              | 40 (47.6)           |          |
| Insufficient                             | 13 (9.9)       | 10 (21.3)              | 3 (3.6)             |          |

*p* – differences between groups according to Pearson's criterion  $\chi^2$ , including Yates correction.

**Table 1.** Characteristics of employees of Dnipro educational institutions involved in the study.

(teachers, laboratory assistants, librarians) of higher education institutions (15.3 %).

According to the three measurements, among the surveyed educators in Dnipro, systolic BP was 131.3 (95 % CI 128.1 - 134.5) mm Hg, diastolic - 82.6 (95 % CI 80.9 - 84.3) mm Hg.

In general, HTN was detected in 84 (64.1 %; 95 % CI 55.3 - 72.3), among them 54 (58.1 %) women, and 30 (78.9 %) men. Systolic BP in men was significantly higher than in women ( $p=0.022$ ). Patients who suffered a myocardial infarction had more elevated systolic BP ( $p=0.018$ ) compared to others. Smokers had higher systolic and diastolic BP ( $p=0.045$ ).

A small part of the surveyed persons consumes alcohol (15.3 %) and smokes (16.8 %). However, educators usually experience a great psycho-emotional load and often get into stressful situations. Thus, a total of 84.7 % of respondents indicated attention deficit, 74.1 % - memory impairment, 67.2 % - anxiety, 57.2 % - rapid fatigue. Almost a third of respondents (28.2 %) believe that their health has deteriorated over the past year, every 10th (9.9 %) complained of insufficient material support, and almost half (43.5 %) did not consider themselves happy men.

Among the surveyed employees of schools and universities of Dnipro, 20 (15.3 %) suffered a myocardial infarction, 6 (4.6 %) - had a stroke, one person suffered a myocardial infarction and stroke, 7 (5.3 %) people had diabetes. Most patients with HTN have a history of myocardial infarction compared with those without HTN (22.6 % and 2.1 %, respectively;  $p=0.002$ ).

Among the study participants, it was found that 22 (16.8 %) were smokers, of whom 5 (22.7 %) were women, and 17 (77.3 %) were men. There were also 6 (4.6 %) people who often drink alcohol (all men) and 14 (10.7 %) people who drink alcohol less than once a week [of which 4 (28.6 %) were women and 10 (71.4 %) men].

The low propensity of patients to make decisions about their health is indicated by the fact that 80.9 % do not know information about blood glucose levels, and 86.3 % - do about cholesterol levels.

Found no differences between gender, education, position, diabetes, stroke, smoking, alcohol use, attention deficit, memory impairment, anxiety, and rapid fatigue between comparison groups ( $p>0.05$ ).

Of all those surveyed, 59 (45.0 %) (95 % CI 36.3 - 54.0) received appropriate AHT, which corresponds to 70.2 % of

detected cases of HTN. From the number of people with known HTN ( $n=64$ ), only 39 (60.9 %) reached the target values of BP.

Of those who received antihypertensive medications, 39 (66.1 %) had controlled BP, representing 46.4% of all patients with HTN included in the study. Twenty-five screeners (55.6 %) found to have a systolic BP  $\geq 140$  mm Hg or diastolic BP  $\geq 90$  mm Hg from all 45 were not on AHT and 20 (44.4 %) - were on AHT. Of all participants screened who were not on antihypertensive medication, 34.72 % were found to have HTN. These were mostly men (55 %) aged 45 to 60 (70.0 %), teachers (85 %) with higher education (90.0 %).

According to the approach proposed in the ESSE-RF study [7], all respondents can be divided into groups: persons without HTN ( $n=47$ ; 35.9 % of the total number of respondents); people with HTN who are taking AHT and have normal BP, therefore treated effectively ( $n=39$ ; 29.8 %), people with HTN who take medication but do not control BP - are treated ineffectively ( $n=20$ ; 13.3 %) and persons with HTN who do not take AHT ( $n=25$ ; 19.1 %).

According to the correlation analysis in the 2nd group, among patients with HTN, the following characteristics of the subjects are associated to the use of antihypertensive drugs: age ( $r_s=0.37$ ;  $p<0.001$ ); BMI ( $r_s=0.22$ ;  $p=0.013$ ); suffered a stroke ( $r_s=0.24$ ;  $p=0.005$ ); elevated glucose ( $r_s=0.34$ ;  $p<0.001$ ) and cholesterol ( $r_s=0.31$ ;  $p<0.001$ ); memory impairment ( $r_s=0.23$ ;  $p=0.007$ ); rapid fatigue ( $r_s=0.27$ ;  $p=0.002$ ); deterioration of health ( $r_s=0.32$ ;  $p<0.001$ ).

Assessment of QOL according to the method of SF-36 showed that the majority of respondents assess their health as good (56.1 %) or satisfactory (37.8 %) without statistically significant differences between comparison groups ( $p>0.05$ ).

Educators rated the "Physical functioning" scale of QoL as the best, "Role-physical" and "Social functioning" scales - as the worst (Fig. 1). In men, there was a statistically significant higher score of QOL on the scales of Physical Functioning and Bodily Pain ( $p=0.045$ ).

Patients with HTN had a statistically significantly lower value of QOL on the Role-Physical ( $p=0.004$ ) and Role-Emotional ( $p=0.026$ ) scales compared with persons without HTN (Fig. 2), which indicates the important role of physical and emotional problems in limiting the activity of patients with HTN. On other scales, found no differences between the comparison groups ( $p>0.05$ ).

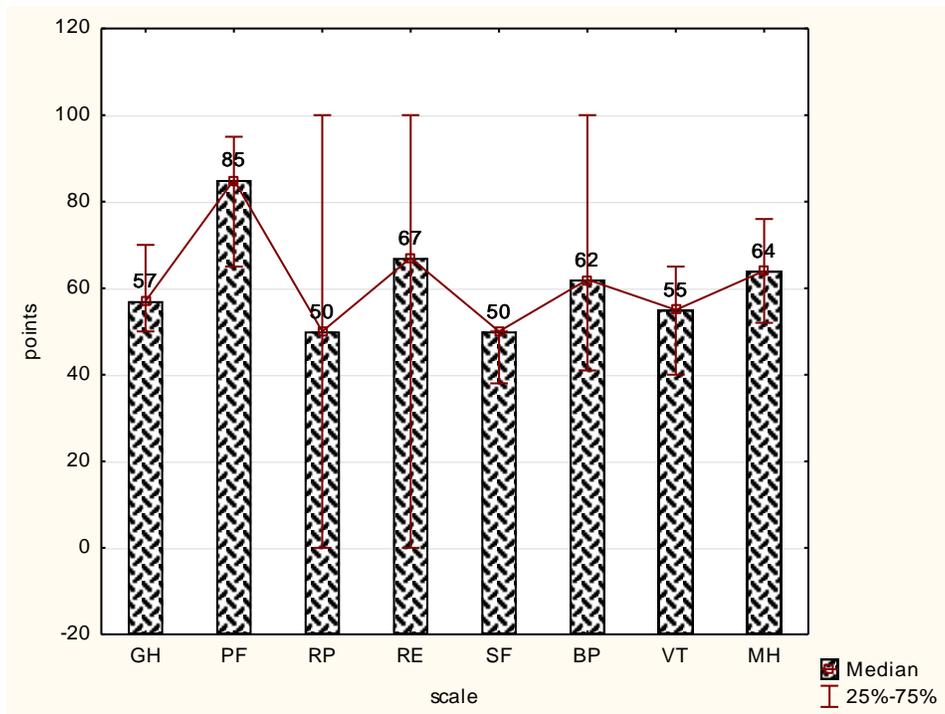


Figure 1. The average level of QOL on the scales of SF-36 in the surveyed educators in Dnipro (median and interquartile range). Physical functioning (PF), Role-physical functioning (RP), Bodily pain (BP), General health (GH), Vitality (VT), Social functioning (SF), Role-emotional functioning (RE), Mental health (MH).

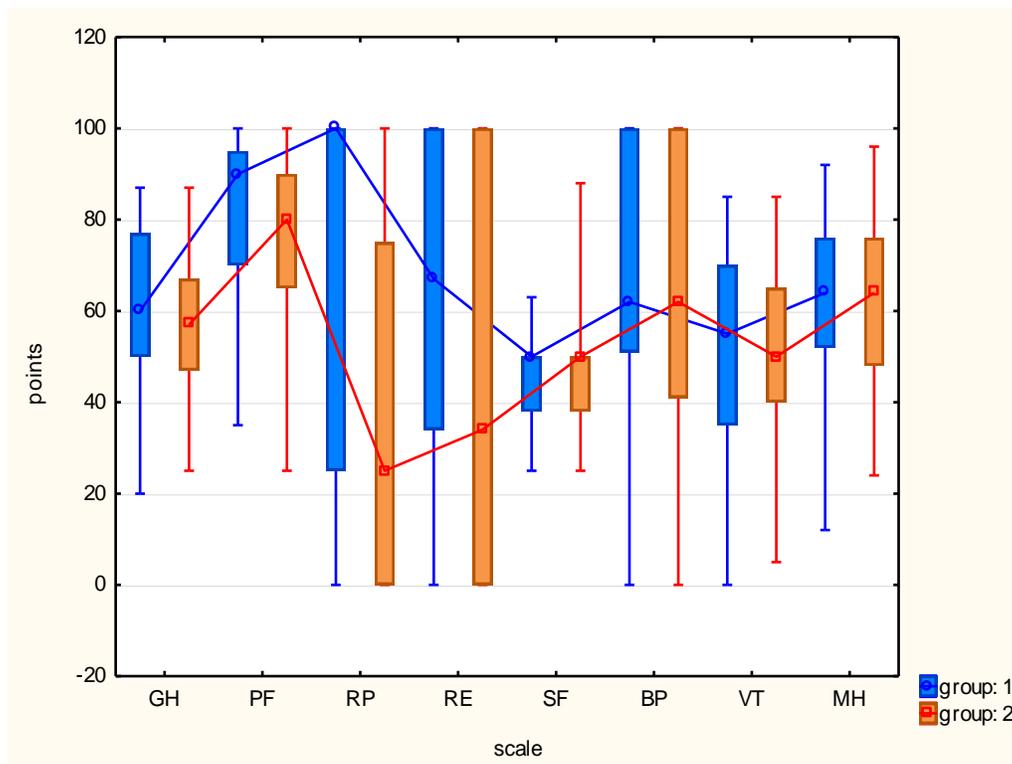


Figure 2. Quality of life profiles for SF-36 in surveyed Dnipro educators in comparison groups (median and interquartile range). Physical functioning (PF), Role-physical functioning (RP), Bodily pain (BP), General health (GH), Vitality (VT), Social functioning (SF), Role-emotional functioning (RE), Mental health (MH).

On average, the physical component of health in the surveyed persons is higher compared to the psychological component: 64.3 (46.8; 79.3) points compared to - 54.1 (40.8; 67.0) points, as among all surveyed and in the comparison groups ( $p < 0.001$ ), which is mainly due to the mental nature of employment of the respondents and the impact of HTN on this type of activity.

According to the level of the physical component in group 1 without HTN, the assessment of QOL [74.8 (56.8; 83.0) points] significantly exceeded the indicators in the comparison group - 60.8 (45.3; 72.3) points ( $p = 0.014$ ). No differences were found between the comparison groups ( $p > 0.05$ ).

Qualitative assessment of QOL showed that the highest share of high scores (75 - 100 points) respondents give Physical Functioning (69.4 %), and the lowest (up to 25 points) Role-physical functioning (28.6 %) and Role-Emotional functioning 27.6 %).

On average, the physical component of health in the surveyed persons is higher compared to the psychological component: 64.3 (46.8; 79.3) points compared to - 54.1 (40.8; 67.0) points, as among all surveyed and in the comparison groups ( $p < 0.001$ ), which is mainly due to the mental nature of employment of the respondents and the impact of HTN on this type of activity.

Correlation analysis showed an inverse relationship between age and the scales of PF ( $r_s = -0.24$ ;  $p = 0.016$ ), Bodily Pain ( $r_s = -0.20$ ;  $p = 0.047$ ) and GH ( $r_s = -0.24$ ;  $p = 0.017$ ); between systolic BP and the GH scale ( $r_s = -0.25$ ;  $p = 0.018$ ); and a direct relationship between BMI and MH ( $r_s = 0.28$ ;  $p = 0.009$ ), between glucose and MH ( $r_s = 0.23$ ;  $p = 0.020$ ); between stroke and VT ( $r_s = -0.25$ ;  $p = 0.014$ ).

The presence of a decrease in the RP scale and the general physical component of QOL among patients taking antihypertensive drugs compared with those who do not take AHT and the inverse correlation between these indicators (respectively  $r_s = -0.25$ ;  $p = 0.014$  and  $r_s = -0.25$ ,  $p = 0.014$ ), which indicates that AHT is used mainly by those whose quality of life is reduced due to poor physical condition.

Among the respondents who noted impaired attention, memory loss, anxiety, and rapid fatigue, there were lower QOL and inverse correlations with various elements of QOL (Table 2). There was a statistically significant decrease in QOL on attention-impaired educators' RP, VT, and MH scales ( $p < 0.05$ ). Respondents with memory impairment significantly reduced QOL on the RP, Bodily Pain, VT, and

MH scales ( $p < 0.05$ ). The study participants who noted anxiety showed a significant reduction in QOL on the scales of PF, RP, RE, Bodily Pain, and VT ( $p < 0.05$ ). Respondents with rapid fatigue showed a significant decrease in QOL on the PF, RP, Bodily Pain, and VT scales ( $p < 0.05$ ).

Attention deficit, memory impairment, anxiety, and rapid fatigue are more associated with the components of the QOL of subjects with HTN than the values of BP, which can be interpreted as mediated by the effect of HTN on QOL due to deteriorating psycho-emotional state.

**DISCUSSION.** According to instrumental surveys and surveys, the total frequency of detected HTN was 64.1 % (95 % CI 55.3 - 72.3). Hypertension in the sample was more common in the elderly with obesity, high glucose, and cholesterol.

At the same time, 25 people out of 45 who were diagnosed with HTN (55.6 %) were unaware of the presence of HTN. These were mostly men aged 45 to 60, teachers. Therefore, it can assume that this population category will not be prone to health-preserving behavior and manifestations of autonomy in receiving medical care.

The work of educators, especially teachers and educators, is associated with constant stress, which leads to complaints of impaired attention, memory loss, anxiety, fatigue, and reduced QOL. Demographic (age, gender), lifestyle factors (BMI, smoking, alcohol consumption), and work (stress) affect the increased prevalence of hypertension among teachers.

The SF-36 quality of life assessment showed that the majority of respondents rated their health as good or satisfactory (93.9 %); QOL assessment by areas ranges on average from RP - 50.0 (0.0; 100.0) points and SF - 50.0 (38.0; 50.0) points to PF - 85.0 65.0; 95.0) points; GH is 57.0 (50.0; 70.0) points; in general, the physical component of health is higher than the psychological one. The most sensitive criteria in the presence of HTN were related to physical and emotional role functioning; they characterize the degree of impact of the disease on the performance of work or other normal daily activities. The significant influence of psycho-emotional problems in limiting the life of patients with HTN and reducing their QOL has been determined. Patients with reduced QOL tend to maintain their health through AHT and, by greater autonomy, manifested primarily through poor health [7, 13].

The achievements of evidence-based prevention and scientifically sound self-help should be actively used in the medical care of patients with HTN [8]. Since there is an

| Scales                    | Attention-deficit | Memory impairment | Anxiety | Rapid fatigue |
|---------------------------|-------------------|-------------------|---------|---------------|
| General Health (GH)       | -0.16             | -0.19             | -0.11   | -0.13         |
| Physical Functioning (PF) | 0.02              | -0.06             | -0.21*  | -0.32*        |
| Role-Physical (RP)        | -0.26*            | -0.22*            | -0.23*  | -0.35*        |
| Bodily Pain               | -0.15             | -0.22*            | -0.26*  | -0.28*        |
| Physical component        | -0.21*            | -0.26*            | -0.28*  | -0.40*        |
| Role-Emotional (RE)       | -0.20*            | -0.12             | -0.26*  | -0.16         |
| Social Functioning (SF)   | -0.01             | -0.12             | -0.15   | -0.13         |
| Vitality (VT)             | -0.31*            | -0.38*            | -0.39*  | -0.42*        |
| Mental Health (MH)        | -0.24*            | -0.27*            | -0.19   | -0.17         |
| Mental component          | -0.27*            | -0.27*            | -0.36*  | -0.29*        |

**Table 2.** Correlations between the results of the survey on the psycho-emotional state of the subjects and assessments of QOL among the surveyed (Spearman's rank correlation coefficients–  $r_s$ ).

\* - statistically significant ( $p < 0.05$ ) correlation coefficients

urgent need to promote a healthy lifestyle, adherence to work and rest, abandonment of bad habits, nutrition, and combating hypodynamics, we need to focus on forming a positive attitude toward treatment and changing their attitude toward the disease. This should be taken into account both in the organization of health care and in the work of the public protection system as a whole.

Empowering the population and actively involving patients in the treatment process will improve its results and increase commitment and satisfaction. It is possible to increase patients' involvement in medical decisions by providing reliable and accessible information, health promotion, hygienic education, peer-to-peer support, and exchange of decision-making mechanisms.

It is possible to increase the attractiveness of preventive measures for patients by developing an appropriate program and increasing its availability by conducting at a convenient time, using modern electronic and remote technologies, etc.

#### CONCLUSION.

1. A survey supplemented by instrumental examinations revealed that HTN was detected in 84 (64.1 %) persons (95 % CI 55.3 - 72.3). Of those surveyed, 59 received appropriate antihypertensive treatment, corresponding to 70.2 % of detected cases of HTN. Of those who

received antihypertensive medications, 39 (66.1 %) had controlled BP, representing 46.4% of all patients with HTN included in the study. From the number of persons with known HTN ( $n=64$ ), only 39 (60.9 %) reached the target values of BP. These results seem to be due to a special study cohort of patients - employees of educational institutions.

2. The quality of life profile in persons with hypertension differs from those without high blood pressure with lower values on the Role-Physical ( $p=0.004$ ), Role-Emotional ( $p=0.026$ ) scales, and the level of the physical component ( $p < 0.001$ ).
3. According to the study, some facts indicate a low propensity of patients to make decisions about their health. More than half of the respondents with high blood pressure (55.6 %) were unaware of their condition and did not receive appropriate treatment. In contrast, more than a third of patients did not achieve blood pressure control even while taking medication. This justifies the need for a more thorough diagnosis and treatment of hypertension involving patients in this process.
4. According to the study results, the use of antihypertensive drugs, which is a manifestation of patient autonomy in making medical decisions, depends on the age of patients and the presence of aggravating factors: stroke, elevated glucose, and cholesterol, deteriorating psycho-emotional state, and general deterioration.

5. The management of patients with hypertension should consider patient autonomy in medical decision-making and informed consent, which will improve the effectiveness of addressing the global problem of hypertension.

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