

	Subjects with normal blood pressure values (n=312)	Subjects with arterial hypertension (n=41)	p
females	35%	44%	ns
males	65%	56%	ns
age < 18 y.	88%	90%	ns
age 19-24 y.	12%	10%	ns
mild MR	52%	58%	ns
moderate MR	38%	32%	ns
severe MR	10%	10%	ns

**Conclusions:** 1. Among Polish pupils aged 7-24 y. with MR the prevalence of AH was 12%. 2. No age and sex differences were detected in the prevalence of AH among young patients with intellectual disability. 3. There was no relationship between the degree of MR and the prevalence of AH.

#### PP.25.17 SALT SENSITIVITY AND INCIDENCE OF HYPERTENSION: THE GENSALT STUDY

J. He<sup>1</sup>, D. Gu<sup>2</sup>, J. Chen<sup>1</sup>, J. Chen<sup>2</sup>, Q. Zhao<sup>1</sup>, J. Huang<sup>2</sup>, J. Li<sup>2</sup>, J. Cao<sup>2</sup>, K. Mills<sup>1</sup>, C. Chen<sup>1</sup>, L. Hamm<sup>1</sup>.<sup>1</sup> Tulane University, New Orleans, LA, USA, <sup>2</sup> Fuwai Hospital, Beijing, CHINA

**Objective:** It is well known that blood pressure (BP) responses to dietary sodium and potassium intakes vary among individuals (salt- and potassium-sensitivity). However, it is unknown whether salt- and/or potassium-sensitivity predict the risk of hypertension.

**Design and method:** We conducted a dietary sodium and potassium intervention study among 1,906 Han Chinese in 2003-05 and followed the study participants in 2008-09 and 2011-12. The dietary intervention included a 7-day low sodium-feeding (51.3 mmol/day), a 7-day high sodium-feeding (307.8 mmol/day), and a 7-day high sodium-feeding with an oral potassium supplementation (60 mmol/day). Three BP measurements were obtained on each of the last 3 days of each intervention period at the baseline and each of the 3 days of follow-up examinations.

**Results:** Systolic BP responses (mean ± SD) to dietary intervention were -5.5±7.0 for low-sodium, 4.9±6.0 for high-sodium, and -3.5±5.5 for potassium-supplementation. Over an average of 7.4 years of follow-up, we identified 455 incidence hypertension cases. The age-adjusted cumulative incidences of hypertension by the quartiles of systolic BP responses to dietary intervention were showed in the following table. These associations remained after adjustment for multiple covariates.

	Quarter 1 (lowest response)	Quarter 2	Quarter 3	Quarter 4 (highest response)	P-value for trends
Low-sodium Intervention	22.2	30.4	29.4	44.9	<0.0001
High-sodium intervention	27.1	26.8	31.2	39.3	0.0002
Potassium-supplementation	22.7	30.8	32.7	38.9	<0.0001

**Conclusions:** These data indicate that BP responses to dietary sodium and potassium intervention are related to the subsequent risk of hypertension. Furthermore, our study suggests that individuals who are more sensitive to dietary sodium and potassium intake are at an increased risk for hypertension and should be target for dietary intervention.

#### PP.25.18 EPIDEMIOLOGY OF ARTERIAL HYPERTENSION IN RURAL POPULATION OF UKRAINE: RESULTS OF THE 6-YEAR OBSERVATION

I. Gorbas, O. Kvasha, I. Smyrnova.  
Research Institute of Cardiology, Kiev, UKRAINE

**Objective:** Objective of the investigation is to study the 6-year epidemiological situation dynamics relative to arterial hypertension (AH) in rural population of Ukraine.

**Design and method:** Two separate standard examinations of rural residents aged 18-64 years (respectively 2175 and 1455 persons) were conducted at an interval of 6 years, using conventional epidemiological methods and evaluation criteria.

**Results:** Within the observational period the AH prevalence was unchanged and amount to 36,3%. Among persons with high blood pressure more frequent is registered AH 1 degree (51,1 %) and the mixed form (62,0%).

The results of study have revealed the high prevalence of risk factors among patients with AH. In this group 34,9% of males and 29,1% of females had an overweight, while 46,4 and 61,6% suffered from the obesity; 44,9% of male and 44,5% of female had the hypercholesterolemia; 45,2% of males and 4,1% of females were smokers. During 6 years the prevalence of overweight was practically unchanged, frequency of obesity increased from 49,8 to 54,7% (p<0,001), smoking among females - from 2,6 to 4,1% (p>0,05), whereas the hypercholesterolemia prevalence decreased from 53,6 to 44,7% (p<0,001) and smoking among males - from 49,5 to 45,2% (p<0,001). Within the observational period knowledge of patients about the presence of AH slightly decreased from 67,8 to 63,0% (p>0,05), amount of persons which use antihypertensive medications increased from 38,3 to 43,1% (p<0,05). Efficiency of treatment didn't almost change, hesitating from 8,1 to 10,5%.

Specific gravity of the combined therapy was multiplied from 54,2 to 60,6 % (p>0,05). The percent of ACE-inhibitors prescriptions grew from 46,8 to 67,6% (p<0,001), angiotensin receptor blockers - from 0,4 to 5,2% (p>0,05), calcium antagonists - from 4,7 to 10,4% (p>0,05). The frequency of beta-blocker prescriptions was practically unchanged, hesitating from 16,7 to 17,7%. Use of antihypertensive drugs of second line decreased from 30,7 to 12,8 % (p<0,01).

**Conclusions:** An epidemiology situation in relation to AH remains unfavorable. At presence of certain of risk profile and state of AH control it is heavy to hope in the near time on the noticeable decline of death rate of population.

#### PP.25.19 THE PREVALENCE OF HYPERTENSION IN THE POPULATION OF MEN AGED 20-59 YEARS

M.M. Mursalov, F.N. Gasimova, S.S. Sultanova, R.N. Mammadova.  
Azerbaijan State Doctors Improvement Institute named after A. Aliyev, Baku, AZERBAIJAN

**Objective:** In the era of urbanization arterial hypertension (AH) acquired the status of the epidemic and has become a global problem cardiology. Information on the prevalence of hypertension in certain regions will develop preventive measures in the fight against cardiovascular disease.

The purpose of the study: To study the prevalence of hypertension in the population of men 20-59 years old, living in the city of Sumgait.

**Design and method:** The survey took place 865 men living in Sumgait, which were divided into four age groups: 20-29, 30-39, 40-49 and 50-59. All patients filled Cardiology questionnaire on the presence of chronic non-communicable diseases. Also determined anthropometric data, ECG registration alone in 12 conventional leads, followed by coded according to the Minnesota code criteria, measurement of blood pressure (BP). Blood pressure was measured twice on the right arm, sitting, after a 10- minute rest. Diagnosis was established hypertension if the systolic blood pressure SBP was more 140 mmHg and diastolic blood pressure was more 90 mmHg, and if the examine for the last week took anti-hypertensive drugs.

**Results:** Our study showed that the prevalence of hypertension was 31,0 ± 0,9%, i.e. 1/3 of patients.

Age dynamics of hypertension significantly increased from a minimum of 20-29 years (7,4 ± 1,7%) to a maximum of 50-59 years (72,6 ± 3,5%, p < 0,001), with the rate of increase in the frequency was reported in the age range between 20-29 years and 30-39 years. Alarming high prevalence of hypertension in persons 50-59 years. It should be noted that men 40-49 and 50-59 years reported a 2- fold increase in the frequency of hypertension compared with those of young age of 40 years.

**Conclusions:** The frequency of hypertension in male population was 31,0 ± 0,9%, with a maximum frequency of its accounts for the period of 50-59 years of age (72,6 ± 3,5%). Individuals over 40 years, AH occurs in 2 times more than 20-39 years.

#### PP.25.20 TREND OF HYPERTENSION PREVALENCE, TREATMENT AND CONTROL IN A MEDITERRANEAN POPULATION. A 12-YEAR FOLLOW-UP STUDY

G. Frontera<sup>1</sup>, P. Hermoso<sup>2</sup>, L. Garcia-Ortiz<sup>3</sup>, R. Ramos<sup>4</sup>, F. Rigo<sup>2</sup>.  
<sup>1</sup> Research Unit, Hospital Universitario Son Espases, Palma, SPAIN, <sup>2</sup> Primary Care, REDIAPP, IBSALUT, Palma, SPAIN, <sup>3</sup> Primary Care Research Unit La Alamedilla, SAcyL, IBSAL, Salamanca, SPAIN, <sup>4</sup> Research Unit. Jordi Gol IDIAP, ICS, Girona, SPAIN

**Objective:** To assess the evolution of the prevalence of hypertension, treatment and control of blood pressure.

**Design and method:** A cross sectional study was first conducted in 2000 to study the prevalence of classic cardiovascular risk factors, with follow-up at 10-13 years. A sample of 1685 individuals, representative of the Balearic population from 35 to 74 years, were included. Blood pressure taps were performed using validated automated devices, blood analysis 12 hours of fasting with metabolic laboratory tests were conducted, anthropometric measurements, smoking consumption, and prescribed medication were collected.

**Results:** By 2013, we contacted 1352 individuals (80.2%). 222 deaths (13.2%) were recorded and 111 (6.5%) were given for lost. The prevalence of hypertension in 2000, was 47.0% (52.3% in men and 42.4% in women) while women had more hypertension than men from 65 years old. In 2013, the prevalence was 52.0%, 60.1% in men and 56.5% in women, and was higher from 75 years (68.9 and 79.2%, respectively).

Receiving antihypertensive medication, 21.6% of men in 2000 and 46.7% in 2013, and 20.8% and 47.1% of women, respectively. The control of blood pressure (systolic blood pressure < 140 mmHg and diastolic blood pressure < 90 mmHg) in treatment with antihypertensive men, in 2000, was 34.7% and, in 2013, 66.6%, while in treated women was 30.0% and 73.2%, respectively.

**Conclusions:** Moderate decline in the prevalence of hypertension, and, overall, a higher prescription of pharmacological treatments and better blood pressure control in 2013, was found. Women had lower prevalence and pharmacological treatments, but better blood pressure control.

#### PP.25.21 THE COMPONENTS AND PREVALENCE OF THE METABOLIC SYNDROME IN NEVER-TREATED AND TREATED HUMAN IMMUNODEFICIENCY VIRUS INFECTED BLACK AFRICANS

C. Fourie, J.M. Van Rooyen, H.W. Huisman, C.M.C. Mels, W. Smith, R. Kruger, R. Schutte, L.J. Ware, A.E. Schutte. *HART (Hypertension in Africa Research Team), North-West University, Potchefstroom, SOUTH AFRICA*

**Objective:** While Human Immunodeficiency Virus (HIV) infected individuals in the developed world often demonstrate the metabolic syndrome associated with an increased risk for the development of cardiovascular disease (CVD), such data is scarce in sub-Saharan Africa. South Africa has a double burden of disease with the high prevalence of HIV infection and hypertension. We assessed the prevalence of the metabolic syndrome (MetS) and its components in HIV infected black Africans.

**Design and method:** The components of MetS were determined in 165 HIV uninfected and 143 infected (77 never-treated and 66 treated) participants. Fasting blood samples were obtained for biochemical analysis and blood pressure were measured with the OMRON HEM-757 device. HIV infection were determined with rapid card tests and those treated received two nucleoside reverse transcriptase inhibitors and one non-nucleoside reverse transcriptase inhibitor. MetS was defined according to the updated International Diabetes Federation (IDF) criteria and the MetS components were compared with analysis of covariance whilst adjusting for age, gender, BMI as well as alcohol and tobacco use.

**Results:** The treated group showed higher total cholesterol (TC) and low density lipoprotein (LDL) levels ( $p < 0.01$ ) compared to the never-treated group. The never-treated group showed lower systolic blood pressure ( $p = 0.03$ ), pulse pressure ( $p = 0.04$ ), TC ( $p < 0.01$ ) and high density lipoprotein ( $p < 0.01$ ) levels compared to the uninfected group. The odds ratio for having higher than median triglyceride and glucose levels is 2.9 and 2.4 times more when receiving treatment for HIV infection. The prevalence of MetS was 23.6% in the uninfected group, 17.9% in the never-treated and 30.3% in the treated HIV infected group. The prevalence of MetS in the treated group tended to differ ( $p = 0.08$ ) from those who never received treatment.

**Conclusions:** Cardiometabolic components of MetS were lower in the never-treated HIV infected participants compared to the uninfected controls. The prevalence of MetS in the treated participants tended to be higher compared to the never-treated participants whilst their metabolic components (TC and LDL) levels were also higher.

#### PP.25.22 WHY LOW LEVEL EFFECTIVE CONTROL OF ARTERIAL HYPERTENSION IN THE RUSSIAN FEDERATION? (EPOCHA STUDY)

I. Fomin<sup>1</sup>, E. Shcherbinina<sup>1</sup>, Y. Badin<sup>1</sup>, D. Polyakov<sup>1</sup>, E. Artemyeva<sup>2</sup>, E. Tarlovskaya<sup>3</sup>, S. Yakushin<sup>4</sup>, N. Koziolova<sup>5</sup>, A. Galyavich<sup>6</sup>, S. Kechedzhieva<sup>7</sup>. <sup>1</sup> Nizhny Novgorod Medical State Academia, Nizhny

Novgorod, RUSSIA, <sup>2</sup> Chuvash Medical State University, Cheboksary, RUSSIA, <sup>3</sup> Kirov Medical State Academia, Kirov, RUSSIA, <sup>4</sup> Ryazan Medical State University, Ryazan, RUSSIA, <sup>5</sup> Perm Medical State Academia, Perm, RUSSIA, <sup>6</sup> Kazan Medical State University, Kazan, RUSSIA, <sup>7</sup> Stavropol Medical State University, Stavropol, RUSSIA

**Objective:** Studied the level of effective control in the population of the European part of the Russian Federation according to Epidemiological trial (EPOCHA-AH).

**Design and method:** In 2002 was formed the representative sample of European part of Russia and it included eight subjects: the Nizhny Novgorod, Kirov, Saratov and Ryazan regions, Stavropol and Perm territories, republic of Tatarstan and Chuvash republic. 19503 respondents from 10 to 100 years old were included. They were re-examined in 2007. Losses respondents amounted to 12.3% of the representative sample. Patients were identified with hypertension: blood pressure (BP) > 140/90 mm Hg or taking antihypertensive drugs at the time of examination. Patients who are taking any antihypertensive drugs and have BP < 140/90 mm Hg, considered an effective treatment. Patients who take the drugs continuously, one of them is a prolonged drug and blood pressure is below 140/90 mmHg is considered as controlling hypertension.

**Results:** The veritable prevalence of AH in Russia amounted to 39.7% cases. The prevalence of hypertension among the urban population was significantly higher (41.0%) than in villages (38.1%,  $p = 0.0006$ ). The BP < 140/90 mm Hg was determined in 13.5% of all hypertensive patients.

58.4% patients treated but not control BP. 11.3% of patients effectively treated and taking any antihypertensive drug. Of these, 59.1% were taking drugs constantly. The remaining patients were treated with drugs only with an increase in BP (30.8%) or courses (10.1%). Patients who took the drug continuously, only 21% had at least one prolonged antihypertensive drug. Only 2.8% of all patients with AH control BP and constantly taking prolonged drugs. This value among treated patients was 4.0%. Gender differences were not found in the general population of hypertensive patients (2.9% in men, 2.8% in women;  $p = 0.9$ ). The same pattern is found among patients treated hypertension (4.7% in male and 3.7% in women;  $p = 0.12$ ). Analysis of doses of drugs showed that 67.4% of patients with AH using small doses of medicaments.

**Conclusions:** The main part of hypertensive patients not treated or ineffectively treated. Patients who are treated, taking drugs impermanent and short-drugs are often used.

#### PP.25.23 THE GENDER DIFFERENCES IN THE PREVALENCE OF ARTERIAL HYPERTENSION IN RUSSIAN POPULATION: EPOCHA STUDY

I. Fomin<sup>1</sup>, E. Shcherbinina<sup>1</sup>, Y. Badin<sup>1</sup>, D. Polyakov<sup>1</sup>, E. Artemyeva<sup>2</sup>, E. Tarlovskaya<sup>3</sup>, S. Yakushin<sup>4</sup>, N. Koziolova<sup>5</sup>, A. Galyavich<sup>6</sup>, S. Kechedzhieva<sup>7</sup>. <sup>1</sup> Nizhny Novgorod Medical State Academia, Nizhny Novgorod, RUSSIA, <sup>2</sup> Chuvash Medical State University, Cheboksary, RUSSIA, <sup>3</sup> Kirov Medical State Academia, Kirov, RUSSIA, <sup>4</sup> Ryazan Medical State University, Ryazan, RUSSIA, <sup>5</sup> Perm Medical State Academia, Perm, RUSSIA, <sup>6</sup> Kazan Medical State University, Kazan, RUSSIA, <sup>7</sup> Stavropol Medical State University, Stavropol, RUSSIA

**Objective:** Studied the gender differences of Arterial Hypertension (AH) in Russian population in Epidemiological trial (EPOCHA-AH).

age	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	≥90
Male (%)	4.0	5.8	14.9	31.1	53.5	66.4	72.7	82.1	50.0
Female (%)	5.1	5.4	12.8	33.4	61.3	78.7	86.1	86.8	71.4
p=	0.24	0.37	0.94	0.78	0.027	0.035	0.048	0.07	0.57

**Design and method:** In 2002 was formed the representative sample of European part of Russia and it included eight subjects: the Nizhny Novgorod, Kirov, Saratov, Ryazan, Stavropol and Perm regions, Tatarstan and Chuvash republics. 19503 respondents from 10 to 100 years old were included and they were re-examined in 2007. Losses respondents amounted to 12.3% of the representative sample. From the sample were identified patients with hypertension: blood pressure > 140/90 mm Hg or taking antihypertensive drugs at the time of examination. Patients who are taking any antihypertensive drugs and have BP < 140/90 mm Hg, considered an effective treatment.

**Results:** In a representative sample men were 42.5% and women - 57.5%. Maximum number of men was in Saratov (45.7%) and women - in Perm (59.8%). The veritable prevalence of AH in the European part of Russia amounted to 39.7% cases. The prevalence of AH amounted 33.8% among men, and 43.3% - women ( $p < 0.001$ ). The highest prevalence of AH among man was in Perm (41.2%), the lowest - in the Chuvash Republic (27.4%). Among women, the