Table I: Socioeconomic, demographics and health characteristics of adults and elderly with self-reported hypertension, under treatment of antihypertensive therapy. PNAUM[a], Brazil, 2014 (n = 8,177).

Variable	Frequency	Percentage %	95% CI
Sex			
Female	5,456	64.4	63.0-65.9
Male	2,721	35.6	34.1-37.0
Age (years)			
20-39	379	7.9	6.6-9.2
40-59	2,824	41.7	40.1-43.4
60 or more	4,974	50.4	48.8-52.0
Brazilian region			
North	1,665	4.4	4.2-4.6
Northeast	1,768	20.3	19.8-20.8
Southeast	1,782	53.3	52.5-54.1
South	1,641	14.3	13.8-14.7
Midwest	1,321	7.8	7.5-8.1
Race/color of skin			
White	3,707	48.6	47.0-50.2
Black	4,133	50.3	48.7-51.9
Others	130	1.2	0.9-1.5
Educational level (years of study)			
Did not study	1,235	14.4	13.4-15.5
1 to 8	3,523	43.1	41.5-44.7
9 to 11	2,435	31.6	30.1-33.1
12 or more	919	10.8	9.8-11.9
CCEB[b]			
A	42	0.8	0.4-1.2
B	1,616	22.7	21.1-24.4
C	4,636	55.4	53.6-57.2
D/E	1866	21.1	19.8-22.4
Body mass index			
Low weight	153	1.8	1.3-2.2
Normal	2,623	30.1	28.7-31.5
Overweight	3,435	42.0	40.4-43.6
Obese	1,964	26.1	24.6-27.7
Smoking			
Smoker	789	10.8	9.7-11.8
Non-smoking	5,013	63.1	61.5-64.7
Ex-smoker	2,050	26.2	24.7-27.7
Alcohol drinking			
Never	6,754	83.0	81.7-84.4
Less than one time per month	461	6.8	5.9-7.7
More than one time per month	637	10.2	9.1-11.2
Number of chronic diseases besides hypertension			
Only hypertension	704	6.0	5.4-6.7
Hypertension and one more	3,450	44.1	42.5-45.7
Hypertension and two or more	4,019	50.0	48.3-51.5
Chronic diseases besides hypertension			
Diabetes	1,796	22.1	20.8-23.4
Hypercholesterolemia	2,125	27.7	26.3-29.2
Other chronic diseases	1,208	15.4	14.3-16.5

[a]National Survey on Access Use and Promotion of Rational Use of Medicines (PNAUM 2014)
[b]Classified according to CCEB 2013 – Brazilian Economic Classification Criterion of the Brazilian Association of Survey Companies. Available from: http://www.abep.org

AWARENESS, TREATMENT AND CONTROL OF HYPERTENSION IN GREECE: THE EMENO NATIONAL EPIDEMIOLOGICAL STUDY

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Objective: The evidence on the epidemiology of hypertension in Greece is limited. The EMENO nationwide epidemiological study assessed the prevalence, awareness, treatment and control of hypertension in randomly selected adults in the general population in Greece.

Design and method: EMENO applied a multi-stage stratified random sampling method involving 577 areas throughout Greece from May 2013 to June 2016. Participants were assessed at homes visits with standardized questionnaires, blood tests and 3 seated blood pressure (BP) measurements (validated upper-arm oscillometric device Microlife BPA100 Plus). Hypertension was defined as BP >=140/90 mmHg (average of 2nd-3rd measurement) and/or use of antihypertensive drugs. Post-stratification weights were applied in order to match the age/sex distribution to the general population in Greece based on census 2011. Non-response was adjusted by inverse probability weighting.

Results: A total of 6,006 subjects were recruited and 4,699 with complete data were analysed (mean age 49.0±18.5 [SD]) years, men 48.5%, BMI 28.1±5.7 kg/m²). The prevalence of HT was 39.2% and was higher in men than women (42.4% vs. 36.1%, p<0.001). Among hypertensive patients, 32.0% were unaware (men/women 39.7/23.7, p<0.001), 2.7% aware untreated, 34.9% treated uncontrolled (men/women 31.8/38.2, p<0.001) and 30.4% treated controlled (men/women 25.7/35.6, p<0.001).

Conclusions: More than one third of the adults in the general population in Greece have elevated BP. One third of them are undiagnosed and only 30.4% are controlled with treatment. Nationwide programs are needed to prevent hypertension and improve its awareness and control in Greece.

HYPERTENSION CHANGES THE ASSOCIATIONS BETWEEN HYPERURICEMIA AND OTHER CARDIOVASCULAR RISK FACTORS

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Objective: The present study analyzed the interrelations of gender, hypertension, and associations between hyperuricemia and other cardiovascular risk factors.

Design and method: Within the scope of the ESSE-RF study, we formed a randomized representative sample of 1603 inhabitants of Krasnoyarsk Krai aged 25-64. The protocol of the study provided the questionnaire, anthropometry, office blood pressure measurement, and biochemical blood analysis (lipids, glucose, creatinine, and uric acid).

We registered hyperuricemia at serum uric acid levels higher than 360 micromoles/l in females and 400 micromoles/l in males. At measured blood pressure 140/90 mm Hg or more, or if a person took antihypertensive medications, we registered hypertension.

Statistical calculations included descriptive statistics (the percentage of people having hypertension or hyperuricemia and 95% confidence intervals), chi-square to check group disparities for significance, and logistic regression to analyze the associations of hyperuricemia and other cardiovascular risk factors. We considered disparities and associations significant at p =<0.05.

Results: We found 30.7% (28.4%; 33.0%) of the sample having hyperuricemia. It was more prevalent in males compared to females (49.9% (45.9%;53.9%) versus 18.2% (15.7%;20.7%); p <0.001) and in hypertension compared to normal blood pressure (57.7% (53.3%;62.2%) versus 45.7% (42.7%;48.7%); p <0.001).
Regression analysis found more factors associated with hyperuricemia in males compared to females. The table shows additional disparities between normal blood pressure and hypertension.

Factors	Odds ratio	95% confidence intervals	p
Normal blood pressure, males			
Elevated low-density lipoprotein	2.59	1.34-5.02	0.005
Lowered high-density lipoprotein	3.85	1.53-9.67	0.004
Moderate physical activity	1.95	1.03-3.69	0.041
Frequent sausages consumption	1.48	1.08-2.03	0.016
Normal blood pressure, females			
Frequent fish and sea food consumption	2.06	1.04-4.10	0.037
Low glomerular filtration rate	3.79	1.60-8.96	0.002
Hypertension, males			
Borderline blood glucose (5.6-7.0 mmol/l)	2.67	1.51-4.72	0.001
Frequent fish and sea food consumption	1.96	1.10-3.47	0.022
Low glomerular filtration rate	5.93	1.62-21.69	0.007
Hypertension, females			
Low glomerular filtration rate	2.58	1.43-4.65	0.002

Conclusions: Krasnoyarsk Krai population demonstrated the high prevalence of hyperuricemia and its association with several metabolic and nutritional factors, including dyslipidemia and renal dysfunction. Hypertension and gender changed the amount and structure of the factors associated with hyperuricemia.

DETERMINANTS FOR THE DEVELOPMENT OF HYPERTENSION AMONG INDONESIAN ADULTS: A PROSPECTIVE COHORT STUDY

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Objective: Hypertension is one most important contributors to disability, morbidity and all-cause mortality. The prevalence of hypertension is predicted to increase over time, not least in Indonesia. However, there is no longitudinal study investigating the factors determined the incidence of hypertension in Indonesia. This study aimed to assess the factors associated with the development of hypertension among adult Indonesian population.

Design and method: This study used longitudinal data from the Indonesian Family Life Survey study (IFLS-4 and IFLS-5) consisting of individuals aged 15 years and over. We followed respondents who did not have hypertensive at the baseline during a 7-year follow-up period. Mixed method analysis was used to examine the determinants associated with the development of hypertension, controlling for sociodemographic, smoking behaviour, body mass index, and mental health status and socioeconomic status. The principal component analysis was conducted to construct the socioeconomic index